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Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu 35 40 45

Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln 50 55 60

Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr 65 70 75 80

Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg \$85\$ 90 95

Leu Tyr Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu 100 105 110

Ile Leu His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn 115 120 125

Cys Met Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp 130 135 140

Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln 145 150 155 160

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Gln Lys Leu Glu Asn Tyr Ile Val Glu Asn Met Lys Ser Glu Met Ala 50 55 60

Gln Ile Gln Gln Asn Ala Val Gln Asn His Thr Ala Thr Met Leu Glu 65 70 75 80

Ile Gly Thr Ser Leu Leu Ser Gln Thr Ala Glu Gln Thr Arg Lys Leu 85 90 95

Thr Asp Val Glu Thr Gln Val Leu Asn Gln Thr Ser Arg Leu Glu Ile 100 105 110

Gln Leu Leu Glu Asn Ser Leu Ser Thr Tyr Lys Leu Glu Lys Gln Leu 115 120 125

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Thr Asn Asn Ser Val Leu Gln Lys Gln Gln Leu Glu Leu Met Asp Thr 195 200 205

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Ala Gly Phe Gly Asp Pro His Gly Glu Phe Trp Leu Gly Leu Glu Lys 70 75 80

Val His Ser Ile Met Gly Asp Arg Asn Ser Arg Leu Ala Val Gln Leu 85 90 95

Arg Asp Trp Asp Gly Asn Ala Glu Leu Leu Gln Phe Ser Val His Leu 100 105 110

Gly Glu Asp Thr Ala Tyr Ser Leu Gln Leu Thr Ala Pro Val Ala 115 120 125

Gly Gln Leu Gly Ala Thr Thr Val Pro Pro Ser Gly Leu Ser Val Pro 130 135 140

Phe Ser Thr Trp Asp Gln Asp His Asp Leu Arg Arg Asp Lys Asn Cys 145 150 155 160

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Lys Glu Tyr Lys Val Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu 70 75 80

Gly Asn Glu Phe Val Ser Gln Leu Thr Asn Gln Gln Arg Tyr Val Leu 85 90 95

Lys Ile His Leu Lys Asp Trp Glu Gly Asn Glu Ala Tyr Ser Leu Tyr 100 105 110

Glu His Phe Tyr Leu Ser Ser Glu Glu Leu Asn Tyr Arg Ile His Leu 115 120 125

Lys Gly Leu Thr Gly Thr Ala Gly Lys Ile Ser Ser Ile Ser Gln Pro 130 135 140

Gly Asn Asp Phe Ser Thr Lys Asp Gly Asp Asn Asp Lys Cys Ile Cys 145 150 155 160

Lys Cys Ser Gln Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly 165 170 175

Pro Ser Asn Leu Asn Gly Met Tyr Tyr Pro Gln Arg Gln Asn Thr Asn 180 185 190

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Gly Trp Leu Val Phe Gln Arg Gln Asp Gly Ser Val Asp Phe Phe 50 . 55 60

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Phe Trp Leu Gly Asn Glu Asn Leu His Gln Leu Thr Leu Gln Gly Asn 85 90 95

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100 105 110

Ala His Tyr Ala Thr Phe Arg Leu Gly Glu Val Asp His Tyr Gln
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Leu Ala Leu Gly Lys Phe Ser Glu Gly Thr Ala Gly Asp Ser Leu Ser 130 135 140

Leu His Ser Gly Arg Pro Phe Thr Thr Tyr Asp Ala Asp His Asp Ser 145 150 155 160

Ser Asn Ser Asn Cys Ala Val Ile Val His Gly Ala Trp Trp Tyr Ala 165 170 175

Ser Cys Tyr Arg Ser Asn Leu Asn Gly Arg Tyr Ala Val Ser Glu Ala 180 185 190

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His Pro Tyr Arg Arg Val Arg Met Met Leu Arg 210 215

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Cys Asp Met Glu Thr Ser Gly Gly Gly Trp Thr Ile Ile Gln Arg Arg 35 40 45

Lys Ser Gly Leu Val Ser Phe Tyr Arg Asp Trp Lys Gln Tyr Lys Gln 50 55 60

Gly Phe Gly Ser Ile Arg Gly Asp Phe Trp Leu Gly Asn Glu His Ile 65 70 75 80

His Arg Leu Ser Arg Gln Pro Thr Arg Leu Arg Val Glu Met Glu Asp 85 90 95

Trp Glu Gly Asn Leu Arg Tyr Ala Glu Tyr Ser His Phe Val Leu Gly 100 105 110

Asn Glu Leu Asn Ser Tyr Arg Leu Phe Leu Gly Asn Tyr Thr Gly Asn 115 120 125

Val Gly Asn Asp Ala Leu Gln Tyr His Asn Asn Thr Ala Phe Ser Thr 130 135 140

Lys Asp Lys Asp Asn Asp Asn Cys Leu Asp Lys Cys Ala Gln Leu Arg 145 150 155 160

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Val Tyr Tyr Arg Leu Gly Glu His Asn Lys His Leu Asp Gly Ile Thr 180 185 190

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Gln Arg Arg Gln Asp Gly Ser Val Asn Phe Phe Thr Trp Gln His 50 55 60

Tyr Lys Ala Gly Phe Gly Arg Pro Asp Gly Glu Tyr Trp Leu Gly Leu 65 70 75 80

Glu Pro Val Tyr Gln Leu Thr Ser Arg Gly Asp His Glu Leu Leu Val 85 90 95

Leu Leu Glu Asp Trp Gly Gly Arg Gly Ala Arg Ala His Tyr Asp Gly 100 105 110

Phe Ser Leu Glu Pro Glu Ser Asp His Tyr Arg Leu Arg Leu Gly Gln

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Ser Leu Ser Gly Gly Trp Trp Phe Gly Thr Cys Ser His Ser Asn Leu

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165



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Gly Asp Pro His Gly Glu Phe Trp Leu Gly Leu Glu Lys Val His Ser 70 75 80

Ile Thr Gly Asp Arg Asn Ser Arg Leu Ala Val Gln Leu Arg Asp Trp 85 90 95

Asp Gly Asn Ala Glu Leu Leu Gln Phe Ser Val His Leu Gly Gly Glu 100 105 110

Asp Thr Ala Tyr Ser Leu Gln Leu Thr Ala Pro Val Ala Gly Gln Leu 115 120 125

Gly Ala Thr Thr Val Pro Pro Ser Gly Leu Ser Val Pro Phe Ser Thr 130 135 140

Trp Asp Gln Asp His Asp Leu Arg Arg Asp Lys Asn Cys Ala Lys Ser 145 150 155 160

Leu Ser Gly Gly Trp Trp Phe Gly Thr Cys Ser His Ser Asn Leu Asn 165 170 175

Gly Gln Tyr Phe Arg Ser Ile Pro Gln Gln Arg Gln Lys Leu Lys Lys 180 185 190

Gly Ile Phe Trp Lys Thr Trp Arg Gly Arg Tyr Tyr Pro Leu Gln Ala

205

195 200

Thr Thr Met Leu Ile Gln Pro Met Ala Ala Glu Ala Ala Ser 210 215 220

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- <213> Artificial/Unknown
- <220>
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- <223> Source not known

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His Asp Gly Ile Pro Ala Glu Cys Thr Thr Ile Tyr Asn Arg Gly Glu
1 5 10 15

His Thr Ser Gly Met Tyr Ala Ile Arg Pro Ser Asn Ser Gln Val Phe 20 25 30

His Val Tyr Cys Asp Val Ile Ser Gly Ser Pro Trp Thr Leu Ile Gln 35 40 45

His Arg Ile Asp Gly Ser Gln Asn Phe Asn Glu Thr Trp Glu Asn Tyr 50 55 60

Lys Tyr Gly Phe Gly Arg Leu Asp Gly Glu Phe Trp Leu Gly Leu Glu 65 70 75 80

Lys Ile Tyr Ser Ile Val Lys Gln Ser Asn Tyr Val Leu Arg Ile Glu 85 90 95

Leu Glu Asp Trp Lys Asp Asn Lys His Tyr Ile Glu Tyr Ser Phe Tyr
100 105 110

Leu Gly Asn His Glu Thr Asn Tyr Thr Leu His Leu Val Ala Ile Thr
115 120 125

Gly Asn Val Pro Asn Ala Ile Pro Glu Asn Lys Asp Leu Val Phe Ser 130 135 140

Thr Trp Asp His Lys Ala Lys Gly His Phe Asn Cys Pro Glu Gly Tyr 145 150 155 160

Ser Gly Gly Trp Trp His Asp Glu Cys Gly Glu Asn Asn Leu Asn 165 170 175

Gly Lys Tyr Asn Lys Pro Arg Ala Lys Ser Lys Pro Glu Arg Arg Arg 180 185 190

Gly Leu Ser Trp Lys Ser Gln Asn Gly Arg Leu Tyr Ser Ile Lys Ser 195 200 205

Thr Lys Met Leu Ile His Pro Thr Asp Ser Glu Ser Phe Glu 210 215 220

<210> 28

<211> 214

<212> PRT

<213> Mus musculus

<400> 28

Arg Asp Cys Gln Glu Leu Phe Gln Glu Gly Glu Arg His Ser Gly Leu 1 5 10 15

Phe Gln Ile Gln Pro Leu Gly Ser Pro Pro Phe Leu Val Asn Cys Glu 20 25 30

Met Thr Ser Asp Gly Gly Trp Thr Val Ile Gln Arg Arg Leu Asn Gly 35 40 45

Ser Val Asp Phe Asn Gln Ser Trp Glu Ala Tyr Lys Asp Gly Phe Gly 50 55 60

Asp Pro Gln Gly Glu Phe Trp Leu Gly Leu Glu Lys Met His Ser Ile 70 75 80

Thr Gly Asn Arg Gly Ser Gln Leu Ala Val Gln Leu Gln Asp Trp Asp 85 90 95

Gly Asn Ala Lys Leu Gln Phe Pro Ile His Leu Gly Gly Glu Asp 100 105 110

Thr Ala Tyr Ser Leu Gln Leu Thr Glu Pro Thr Ala Asn Glu Leu Gly 115 120 125

Ala Thr Asn Val Ser Pro Asn Gly Leu Ser Leu Pro Phe Ser Thr Trp 130 135 140

Asp Gln Asp His Asp Leu Arg Gly Asp Leu Asn Cys Ala Lys Ser Leu 145 150 155 160

Ser Gly Gly Trp Trp Phe Gly Thr Cys Ser His Ser Asn Leu Asn Gly 165 170 175

Gln Tyr Phe His Ser Ile Pro Arg Gln Arg Gln Glu Arg Lys Lys Gly 180 185 190

Ile Phe Trp Lys Thr Trp Lys Gly Arg Tyr Tyr Pro Leu Gln Ala Thr 195 200 205

Thr Leu Leu Ile Gln Pro 210

<210> 29

<211> 216

<212> PRT

<213> Homo sapiens

<400> 29

Phe Gln Asp Cys Ala Glu Ile Lys Arg Ser Gly Val Asn Thr Ser Gly 1 5 10 15

Val Tyr Thr Ile Tyr Glu Thr Asn Met Thr Lys Pro Leu Lys Val Phe 20 25 30

Cys Asp Met Glu Thr Asp Gly Gly Gly Trp Thr Leu Ile Gln His Arg
35 40 45

Glu Asp Gly Ser Val Asn Phe Gln Arg Thr Trp Glu Glu Tyr Lys Glu 50 55 60

Gly Phe Gly Asn Val Ala Arg Glu His Trp Leu Gly Asn Glu Ala Val 65 70 75 80

His Arg Leu Thr Ser Arg Thr Ala Tyr Leu Leu Arg Val Glu Leu His
85 90 95

Asp Trp Glu Gly Arg Gln Thr Ser Ile Gln Tyr Glu Asn Phe Gln Leu 100 105 110

Gly Ser Glu Arg Gln Arg Tyr Ser Leu Ser Val Asn Asp Ser Ser Ser 115 120 125

Ser Ala Gly Arg Lys Asn Ser Leu Ala Pro Gln Gly Thr Lys Phe Ser 130 135 140

Thr Lys Asp Met Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Gln Met 145 150 155 160

Leu Ser Gly Gly Trp Trp Phe Asp Ala Cys Gly Leu Ser Asn Leu Asn 165 170 175

Gly Ile Tyr Tyr Ser Val His Gln His Leu His Lys Ile Asn Gly Ile 180 185 190

Arg Trp His Tyr Phe Arg Gly Pro Ser Tyr Ser Leu His Gly Thr Arg 195 200 205

Met Met Leu Arg Pro Met Gly Ala 210 215

<210> 30

<211> 216

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<213> Homo sapiens

<400> 30

Phe Gln Asp Cys Ala Glu Ile Gln Arg Ser Gly Ala Ser Ala Ser Gly
1 5 10 15

Val Tyr Thr Ile Gln Val Ser Asn Ala Thr Lys Pro Arg Lys Val Phe 20 25 30

Cys Asp Leu Gln Ser Ser Gly Gly Arg Trp Thr Leu Ile Gln Arg Arg 35 40 45

Glu Asn Gly Thr Val Asn Phe Gln Arg Asn Trp Lys Asp Tyr Lys Gln 50 55 60

Gly Phe Gly Asp Pro Ala Gly Glu His Trp Leu Gly Asn Glu Val Val

65 70 75 80 His Gln Leu Thr Arg Arg Ala Ala Tyr Ser Leu Arg Val Glu Leu Gln Asp Trp Glu Gly His Glu Ala Tyr Ala Gln Tyr Glu His Phe His Leu 105 Gly Ser Glu Asn Gln Leu Tyr Arg Leu Ser Val Val Gly Tyr Ser Gly 120 Ser Ala Gly Arg Gln Ser Ser Leu Val Leu Gln Asn Thr Ser Phe Ser 135 Thr Leu Asp Ser Asp Asn Asp His Cys Leu Cys Lys Cys Ala Gln Val Met Ser Gly Gly Trp Trp Phe Asp Ala Cys Gly Leu Ser Asn Leu Asn Gly Val Tyr Tyr His Ala Pro Asp Asn Lys Tyr Lys Met Asp Gly Ile 180 185 Arg Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ala Ser Arg 200 Met Met Ile Arg Pro Leu Asp Ile 210 215 <210> 31 <211> 224 <212> PRT <213> Homo sapiens <400> 31 Lys Pro Ser Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu Glu Asp Gly His Asp Thr Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn Thr Asn Arg Leu Met Gln Val Trp Cys Asp Gln Arg His Asp Pro Gly Gly Trp Thr 40 Val Ile Gln Arg Arg Leu Asp Gly Ser Val Asn Phe Phe Arg Asn Trp 50 Glu Thr Tyr Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu 70 75 Gly Leu Glu Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn Tyr Lys Leu 90 Leu Val Thr Met Glu Asp Trp Ser Gly Arg Lys Val Phe Ala Glu Tyr 100 Ala Ser Phe Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys Leu Arg Leu 115 120 125

Gly Arg Tyr His Gly Asn Ala Gly Asp Ser Phe Thr Trp His Asn Gly 130 135 140

Lys Gln Phe Thr Thr Leu Asp Arg Asp His Asp Val Tyr Thr Gly Asn 145 150 155 160

Cys Ala His Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His 165 170 175

Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Arg 180 185 190

Tyr Gln Asp Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly Ser Tyr Ser 195 200 205

Leu Lys Lys Val Val Met Met Ile Arg Pro Asn Pro Asn Thr Phe His 210 215 220

<210> 32

<211> 220

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<213> Homo sapiens

<400> 32

Ile Asn Glu Gly Pro Phe Lys Asp Cys Gln Gln Ala Lys Glu Ala Gly
1 5 10 15

His Ser Val Ser Gly Ile Tyr Met Ile Lys Pro Glu Asn Ser Asn Gly 20 25 30

Pro Met Gln Leu Trp Cys Glu Asn Ser Leu Asp Pro Gly Gly Trp Thr 35 40 45

Val Ile Gln Lys Arg Thr Asp Gly Ser Val Asn Phe Phe Arg Asn Trp 50 55 60

Glu Asn Tyr Lys Lys Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu 65 70 75 80

Gly Leu Glu Asn Ile Tyr Met Leu Ser Asn Gln Asp Asn Tyr Lys Leu 85 90 95

Leu Ile Glu Leu Glu Asp Trp Ser Asp Lys Lys Val Tyr Ala Glu Tyr
100 105 110

Ser Ser Phe Arg Leu Glu Pro Glu Ser Glu Phe Tyr Arg Leu Arg Leu 115 120 125

Gly Thr Tyr Gln Gly Asn Ala Gly Asp Ser Met Met Trp His Asn Gly 130 135

Lys Gln Phe Thr Thr Leu Asp Arg Asp Lys Asp Met Tyr Ala Gly Asn 145 150 155 160

Cys Ala His Phe His Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His 165 170 175 Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Lys 180 185 190

His Gln Asp Gly Ile Phe Trp Ala Glu Tyr Arg Gly Gly Ser Tyr Ser . 195 200 205

Leu Arg Ala Val Gln Met Met Ile Lys Pro Ile Asp 210 215 220

<210> 33

<211> 136

<212> PRT

<213> Homo sapiens

<400> 33

Gly Lys Lys Glu Lys Pro Glu Lys Lys Val Lys Lys Ser Asp Cys Gly 1 5 10 15

Glu Trp Gln Trp Ser Val Cys Val Pro Thr Ser Gly Asp Cys Gly Leu 20 25 30

Gly Thr Arg Glu Gly Thr Arg Thr Gly Ala Glu Cys Lys Gln Thr Met 35 40 45

Lys Thr Gln Arg Cys Lys Ile Pro Cys Asn Trp Lys Lys Gln Phe Gly 50 55 60

Ala Glu Cys Lys Tyr Gln Phe Gln Ala Trp Gly Glu Cys Asp Leu Asn 65 70 75 80

Thr Ala Leu Lys Thr Arg Thr Gly Ser Leu Lys Arg Ala Leu His Asn 85 90 95

Ala Glu Cys Gln Lys Thr Val Thr Ile Ser Lys Pro Cys Gly Lys Leu 100 105 110

Thr Lys Pro Lys Pro Gln Ala Glu Ser Lys Lys Lys Lys Glu Gly 115 120 125

Lys Lys Gln Glu Lys Met Leu Asp 130 135

<210> 34

<211> 121

<212> PRT

<213> Homo sapiens

<400> 34

Lys Lys Lys Asp Lys Val Lys Lys Gly Gly Pro Gly Ser Glu Cys Ala 1 5 10 15

Glu Trp Ala Trp Gly Pro Cys Thr Pro Ser Ser Lys Asp Cys Gly Val 20 25 30

Gly Phe Arg Glu Gly Thr Cys Gly Ala Gln Thr Gln Arg Ile Arg Cys 35 40 45

Arg Val Pro Cys Asn Trp Lys Lys Glu Phe Gly Ala Asp Cys Lys Tyr 50 55 60

Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly Gly Thr Gly Thr Lys Val 70 75 80

Arg Gln Gly Thr Leu Lys Lys Ala Arg Tyr Asn Ala Gln Cys Gln Glu 85 90 95

Thr Ile Arg Val Thr Lys Pro Cys Thr Pro Lys Thr Lys Ala Lys Ala \cdot 100 105 110

Lys Ala Lys Lys Gly Lys Gly Lys Asp 115 120

<210> 35

<211> 43

<212> PRT

<213> Homo sapiens

<400> 35

Leu Lys Thr Arg Thr Gly Ser Leu Lys Arg Ala Leu His Asn Ala Glu 20 25 30

Cys Gln Lys Thr Val Thr Ile Ser Lys Pro Cys 35 40

<210> 36

<211> 54

<212> PRT

<213> Homo sapiens

<400> 36

Ala Glu Cys Lys Tyr Gln Phe Gln Ala Trp Gly Glu Cys Asp Leu Asn
1 5 10 15

Thr Ala Leu Lys Thr Arg Thr Gly Ser Leu Lys Arg Ala Leu His Asn 20 25 30

Ala Glu Cys Gln Lys Thr Val Thr Ile Ser Lys Pro Cys Gly Lys Leu 35 40 45

Thr Lys Pro Lys Pro Gln . 50

<210> 37

<211> 72

<212> PRT

<213> Homo sapiens

<400> 37

Ala Glu Cys Lys Tyr Gln Phe Gln Ala Trp Gly Glu Cys Asp Leu Asn 1 5 10 15

Thr Ala Leu Lys Thr Arg Thr Gly Ser Leu Lys Arg Ala Leu His Asn 20 25 30

Ala Glu Cys Gln Lys Thr Val Thr Ile Ser Lys Pro Cys Gly Lys Leu 35 40 45

Thr Lys Pro Lys Pro Gln Ala Glu Ser Lys Lys Lys Lys Glu Gly 50 55 60

Lys Lys Gln Glu Lys Met Leu Asp 65 70

<210> 38

<211> 80

<212> PRT

<213> Homo sapiens

<400> 38

Cys Gly Glu Trp Thr Trp Gly Pro Cys Ile Pro Asn Ser Lys Asp Cys

10 15

Gly Leu Gly Thr Arg Glu Gly Thr Cys Lys Gln Glu Thr Arg Lys Leu 20 25 30

Lys Cys Lys Ile Pro Cys Asn Trp Lys Lys Gln Phe Gly Ala Asp Cys 35 40 45

Lys Tyr Lys Phe Glu Ser Trp Gly Glu Cys Asp Ala Asn Thr Gly Leu 50 55 60

Lys Thr Arg Ser Gly Thr Leu Lys Lys Ala Leu Tyr Asn Ala Asp Cys 65 70 75 80

<210> 39

<211> 21

<212> PRT

<213> Homo sapiens

<400> 39

Gly Lys Lys Glu Lys Pro Glu Lys Lys Val Lys Lys Ser Asp Cys Gly
1 5 10 15

Glu Trp Gln Trp Ser 20

<210> 40

<211> 16

<212> PRT

<213> Homo sapiens

<400> 40

Ser Lys Lys Lys Lys Glu Gly Lys Lys Gln Glu Lys Met Leu Asp 1 5 10 15

<210> 41

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<211> 61
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<212> PRT

<213> Homo sapiens

<400> 41

Asp Cys Lys Tyr Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly Gly Thr 1 $$ 5 $$ 10 $$ 15

Gly Thr Lys Val Arg Gln Gly Thr Leu Lys Lys Ala Arg Tyr Asn Ala 20 25 30

Gln Cys Gln Glu Thr Ile Arg Val Thr Lys Pro Cys Thr Pro Lys Thr 35 40 45

Lys Ala Lys Ala Lys Lys Gly Lys Gly Lys Asp 50 55 60

<210> 42

<211> 42

<212> PRT

<213> Homo sapiens

<400> 42

Lys Tyr Lys Phe Glu Asn Trp Gly Ala Cys Asp Gly Gly Thr Gly Thr 1 5 10 15

Lys Val Arg Gln Gly Thr Leu Lys Lys Ala Arg Tyr Asn Ala Gln Cys 20 25 30

Gln Glu Thr Ile Arg Val Thr Lys Pro Cys
35 40

<210> 43

<211> 32

<212> PRT

<213> Homo sapiens

<400> 43

Met Gln Ala Gln Gln Tyr Gln Gln Gln Arg Arg Lys Phe Ala Ala Ala 1 5 10 15

Phe Leu Ala Phe Ile Phe Ile Leu Ala Ala Val Asp Thr Ala Glu Ala 20 25 30

<210> 44

<211> 20

<212> PRT

<213> Homo sapiens

<400> 44

Met Gln His Arg Gly Phe Leu Leu Leu Thr Leu Leu Ala Leu Leu Ala 1 5 10 15

Leu Thr Ser Ala

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<210> 45
<211> 139
<212> PRT
<213> Homo sapiens
<400> 45
Phe Asn Leu Pro Pro
1 5
Ser Asn Gly Gly His
20
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Phe Asn Leu Pro Pro Gly Asn Tyr Lys Lys Pro Lys Leu Leu Tyr Cys 1 5 10 15

Ser Asn Gly Gly His Phe Leu Arg Ile Leu Pro Asp Gly Thr Val Asp 20 25 30

Gly Thr Arg Asp Arg Ser Asp Gln His Ile Gln Leu Gln Leu Ser Ala 35 40 45

Glu Ser Val Gly Glu Val Tyr Ile Lys Ser Thr Glu Thr Gly Gln Tyr 50 55 60

Leu Ala Met Asp Thr Asp Gly Leu Leu Tyr Gly Ser Gln Thr Pro Asn 65 70 75 80

Glu Glu Cys Leu Phe Leu Glu Arg Leu Glu Glu Asn His Tyr Asn Thr 85 90 95

Tyr Ile Ser Lys Lys His Ala Glu Lys Asn Trp Phe Val Gly Leu Lys
100 105 110

Lys Asn Gly Ser Cys Lys Arg Gly Pro Arg Thr His Tyr Gly Gln Lys 115 120 125

Ala Ile Leu Phe Leu Pro Leu Pro Val Ser Ser 130 135

<210> 46 <211> 15

<212> PRT

<213> Homo sapiens

<400> 46

Met Ala Glu Gly Glu Ile Thr Thr Phe Thr Ala Leu Thr Glu Lys 1 $$ 5 $$ 10 $$ 15

<210> 47

<211> 8

<212> PRT

<213> Homo sapiens

<400> 47

Lys Lys Asn Gly Ser Cys Lys Arg 1

<210> 48

<211> 13

<212> PRT

<213> Artificial/Unknown

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<223> Synthetic
<220>
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<222>
      (5)..(5)
<223> "Xaa" may be between 5 and 7 of any amino acids
<220>
<221> misc_feature
<222>
      (7)..(9)
<223> "Xaa" may be any amino acid
<400> 48
Arg Leu Tyr Cys Xaa Leu Xaa Xaa Yaa Pro Asp Gly Arg
<210> 49
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<213> Homo sapiens
<400> 49
Ile Ser Ser Lys
<210> 50
<211> 5
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<213> Homo sapiens
<400> 50
Lys Lys Pro Lys Leu
<210> 51
<211> 535
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<213> Homo sapiens
<400> 51
Met Leu Gly Pro Cys Met Leu Leu Leu Leu Leu Leu Gly Leu Arg
                                   10
Leu Gln Leu Ser Leu Gly Ile Ile Pro Val Glu Glu Asn Pro Asp
                               25
Phe Trp Asn Arg Glu Ala Ala Glu Ala Leu Gly Ala Ala Lys Lys Leu
Gln Pro Ala Gln Thr Ala Ala Lys Asn Leu Ile Ile Phe Leu Gly Asp
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Gly Met Gly Val Ser Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln 65 70 75 80.

Lys Lys Asp Lys Leu Gly Pro Glu Ile Pro Leu Ala Met Asp Arg Phe 85 90 95

Pro Tyr Val Ala Leu Ser Lys Thr Tyr Asn Val Asp Lys His Val Pro 100 105 110

Asp Ser Gly Ala Thr Ala Thr Ala Tyr Leu Cys Gly Val Lys Gly Asn 115 120 125

Phe Gln Thr Ile Gly Leu Ser Ala Ala Ala Arg Phe Asn Gln Cys Asn 130 135 140

Thr Thr Arg Gly Asn Glu Val Ile Ser Val Met Asn Arg Ala Lys Lys 145 150 155 160

Ala Gly Lys Ser Val Gly Val Val Thr Thr Arg Val Gln His Ala 165 170 175

Ser Pro Ala Gly Thr Tyr Ala His Thr Val Asn Arg Asn Trp Tyr Ser 180 185 190

Asp Ala Asp Val Pro Ala Ser Ala Arg Gln Glu Gly Cys Gln Asp Ile 195 200 205

Ala Thr Gln Leu Ile Ser Asn Met Asp Ile Asp Val Ile Leu Gly Gly 210 215 220

Gly Arg Lys Tyr Met Phe Arg Met Gly Thr Pro Asp Pro Glu Tyr Pro 225 230 235 240

Asp Asp Tyr Ser Gln Gly Gly Thr Arg Leu Asp Gly Lys Asn Leu Val 245 250 255

Gln Glu Trp Leu Ala Lys Arg Gln Gly Ala Arg Tyr Val Trp Asn Arg 260 265 270

Thr Glu Leu Met Gln Ala Ser Leu Asp Pro Ser Val Thr His Leu Met 275 280 285

Gly Leu Phe Glu Pro Gly Asp Met Lys Tyr Glu Ile His Arg Asp Ser 290 295 300

Thr Leu Asp Pro Ser Leu Met Glu Met Thr Glu Ala Ala Leu Arg Leu 305 310 315 320

Leu Ser Arg Asn Pro Arg Gly Phe Phe Leu Phe Val Glu Gly Gly Arg 325 330 335

Ile Asp His Gly His His Glu Ser Arg Ala Tyr Arg Ala Leu Thr Glu 340 345 350

Thr Ile Met Phe Asp Asp Ala Ile Glu Arg Ala Gly Gln Leu Thr Ser 355 360 365

Glu Glu Asp Thr Leu Ser Leu Val Thr Ala Asp His Ser His Val Phe

<210> 54

370 375 380 Ser Phe Gly Gly Tyr Pro Leu Arg Gly Ser Ser Ile Phe Gly Leu Ala 390 395 Pro Gly Lys Ala Arg Asp Arg Lys Ala Tyr Thr Val Leu Leu Tyr Gly 410 Asn Gly Pro Gly Tyr Val Leu Lys Asp Gly Ala Arg Pro Asp Val Thr Glu Ser Glu Ser Gly Ser Pro Glu Tyr Arg Gln Gln Ser Ala Val Pro 435 440 Leu Asp Glu Glu Thr His Ala Gly Glu Asp Val Ala Val Phe Ala Arg Gly Pro Gln Ala His Leu Val His Gly Val Gln Glu Gln Thr Phe Ile Ala His Val Met Ala Phe Ala Ala Cys Leu Glu Pro Tyr Thr Ala Cys 485 490 Asp Leu Ala Pro Pro Ala Gly Thr Thr Asp Ala Ala His Pro Gly Arg 500 505 Ser Val Val Pro Ala Leu Leu Pro Leu Leu Ala Gly Thr Leu Leu Leu 520 515 Leu Glu Thr Ala Thr Ala Pro 530 <210> 52 <211> 22 <212> PRT <213> Homo sapiens <400> 52 Met Leu Gly Pro Cys Met Leu Leu Leu Leu Leu Leu Gly Leu Arg 10 Leu Gln Leu Ser Leu Gly <210> 53 <211> 29 <212> PRT <213> Homo sapiens <400> 53 Ala Ala His Pro Gly Arg Ser Val Val Pro Ala Leu Leu Pro Leu Leu Ala Gly Thr Leu Leu Leu Glu Thr Ala Thr Ala Pro

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<211> 108
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<212> PRT

<213> Homo sapiens

<400> 54

Gly Met Gly Val Ser Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln
1 10 15

Lys Lys Asp Lys Leu Gly Pro Glu Ile Pro Leu Ala Met Asp Arg Phe 20 25 30

Pro Tyr Val Ala Leu Ser Lys Thr Tyr Asn Val Asp Lys His Val Pro 35 40 45

Asp Ser Gly Ala Thr Ala Thr Ala Tyr Leu Cys Gly Val Lys Gly Asn 50 55 60

Phe Gln Thr Ile Gly Leu Ser Ala Ala Ala Arg Phe Asn Gln Cys Asn 65 70 75 80

Thr Thr Arg Gly Asn Glu Val Ile Ser Val Met Asn Arg Ala Lys Lys 85 90 95

Ala Gly Lys Ser Val Gly Val Val Thr Thr Arg 100 105

<210> 55

<211> 20

<212> PRT

<213> Artificial/Unknown

<220>

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<222> ()..()

<223> Synthetic

<220>

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<222> (8)..(8)

<223> "Xaa" may be any amino acid

<400> 55

Ala Gln Val Pro Asp Ser Ala Xaa Thr Ala Thr Ala Tyr Leu Cys Gly $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Lys Ala Asn 20

56

<210> 56

<211> 86

<212> PRT

<213> Artificial/Unknown

<220>

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<222> ()..()

<223> Synthetic

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<222> (7)..(7)
<223> "Xaa" may be any amino acid
<220>
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<222>
      (30)..(30)
<223> "Xaa" may be any amino acid
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<221> misc_feature
<222> (33)..(34)
<223> "Xaa" may be any amino acid
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<221> misc feature
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<223> "Xaa" may be any amino acid
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<223> "Xaa" may be any amino acid
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<221> misc_feature
<222> (41)..(41)
<223> "Xaa" may be any amino acid
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<221> misc feature
<222> (44)..(44)
<223> "Xaa" may be any amino acid
<220>
<221> misc_feature
<222> (47)..(47)
<223> "Xaa" may be any amino acid
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<221> misc_feature
      (56)..(57)
<222>
<223> "Xaa" may be any amino acid
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      (65)..(65)
<223> "Xaa" may be any amino acid
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<222> (78)..(79)
<223> "Xaa" may be any amino acid
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<221> misc_feature
<222> (81)..(81)
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<223> "Xaa" may be any amino acid
<220>
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<222>
<223> "Xaa" may be any amino acid
<400> 56
Thr Asn Val Ala Lys Asn Xaa Ile Met Phe Leu Gly Asp Gly Met Gly
                                    10
Val Ser Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Xaa His His
                                25
Xaa Xaa Gly Xaa Glu Thr Xaa Leu Xaa Met Asp Xaa Phe Pro Xaa Val
                            40
Ala Leu Ser Lys Thr Tyr Asn Xaa Xaa Ala Gln Val Pro Asp Ser Ala
Xaa Thr Ala Thr Ala Tyr Leu Cys Gly Val Lys Ala Asn Xaa Xaa Thr
                    70
Xaa Gly Xaa Ser Ala Ala
                85
<210> 57
<211> 53
<212> PRT
<213> Artificial/Unknown
<220>
<221> misc_feature
<222>
      ()..()
<223> Synthetic
<220>
<221> misc_feature
<222> (6)..(6)
<223> "Xaa" may be any amino acid
<220>
<221> misc_feature
<222>
      (16)..(16)
<223> "Xaa" may be any amino acid
<220>
<221> misc_feature
<222>
      (22)..(22)
<223> "Xaa" may be any amino acid
<220>
<221> misc feature
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<222> (41)..(42)
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<223> "Xaa" may be any amino acid

<400> 57

Phe Gly Gly Tyr Thr Xaa Arg Gly Asn Ser Ile Phe Gly Leu Ala Pro 20 25 30

Met Xaa Xaa Asp Thr Asp Lys Lys Xaa Xaa Thr Ala Ile Leu Tyr Gly 35 40 45

Asn Gly Pro Gly Tyr 50

<210> 58

<211> 22

<212> PRT

<213> Homo sapiens

<400> 58

Val Val Pro Ala Leu Leu Pro Leu Leu Ala Gly Thr Leu Leu Leu Leu 1 5 10 15

Glu Thr Ala Thr Ala Pro 20

<210> 59

<211> 154

<212> PRT

<213> Homo sapiens

<400> 59

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly 20 25 30

Gly Gl
y Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gl
n 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu 65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys

115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Ser Val 130 135 140

Arg Gly Lys Gly Cys Asp Lys Pro Arg Arg 145 150

<210> 60

<211> 162

<212> PRT

<213> Artificial/Unknown

<220>

<221> misc feature

<222> ()..()

<223> Synthetic

<400> 60

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly 20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu 65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Ser Val 130 135 140

Arg Gly Lys Gly Lys Gly Gln Lys Arg Lys Arg Lys Cys Asp Lys Pro 145 150 155 160

Arg Arg

<210> 61

<211> 150

<212> PRT

<213> Artificial/Unknown

<220>

<221> misc_feature

<222> ()..()

<223> Synthetic

<400> 61

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu 65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Lys 130 135

Cys Asp Lys Pro Arg Arg 145 150

<210> 62

<211> 154

<212> PRT

<213> Artificial/Unknown

<220>

<221> misc feature

<222> ()..()

<223> Synthetic

<400> 62

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly 20 25 30

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Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu

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Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His 100 105 110

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Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys 130 140

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Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln 325 330 335

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Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro 85 90 95

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Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys 130 135 140

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Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

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Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln

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Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys 130 135 140

Pro Arg Arg Ile Asn Glu Gly Pro Phe Lys Asp Cys Gln Gln Ala Lys 145 150 155 160

Glu Ala Gly His Ser Val Ser Gly Ile Tyr Met Ile Lys Pro Glu Asn 165 170 175

Ser Asn Gly Pro Met Gln Leu Trp Cys Glu Asn Ser Leu Asp Pro Gly 180 185 190

Gly Trp Thr Val Ile Gln Lys Arg Thr Asp Gly Ser Val Asn Phe Phe 195 200 205

Arg Asn Trp Glu Asn Tyr Lys Lys Gly Phe Gly Asn Ile Asp Gly Glu 210 215 220

Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Met Leu Ser Asn Gln Asp Asn 225 230 230 235

Tyr Lys Leu Ile Glu Leu Glu Asp Trp Ser Asp Lys Lys Val Tyr 245 250 255

Ala Glu Tyr Ser Ser Phe Arg Leu Glu Pro Glu Ser Glu Phe Tyr Arg 260 265 270

Leu Arg Leu Gly Thr Tyr Gln Gly Asn Ala Gly Asp Ser Met Met Trp
275 280 285

His Asn Gly Lys Gln Phe Thr Thr Leu Asp Arg Asp Lys Asp Met Tyr 290 295 300

Ala Gly Asn Cys Ala His Phe His Lys Gly Gly Trp Trp Tyr Asn Ala 305 310 315 320

Cys Ala His Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr 325 330 335

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Ser Tyr Ser Leu Arg Ala Val Gln Met Met Ile Lys Pro Ile Asp 355 360 365

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						120
	cgga agagcatgga					
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gtgtcc	aatg ctgtgcagag	ggacgcgccg	ctcgaatacg	atgactcggt	gcagaggctg	240
caagtg	ctgg agaacatcat	ggaaaacaac	actcagtggc	taatgaaggt	agagaatata	300
tcccag	gaca acatgaagaa	agaaatggta	gagatacagc	agaatgcagt	acagaaccag	360
acggct	gtga tgatagaaat	agggacaaac	ctgttgaacc	aaacagcgga	gcaaacgcgg	420
aagtta	actg atgtggaagc	ccaagtatta	aatcagacca	cgagacttga	acttcagctc	480
ttggaa	cact ccctctcgac	aaacaaattg	gaaaaacaga	ttttggacca	gaccagtgaa	540
ataaac	aaat tgcaagataa	gaacagtttc	ctagaaaaga	aggtgctagc	tatggaagac	600
aagcac	atca tccaactaca	gtcaataaaa	gaagagaaag	atcagctaca	ggtgttagta	660
tccaag	caga attccatcat	tgaagaactc	gaaaaaaaaa	tagtgactgc	cacggtgaat	720
aattca	gttc ttcagaagca	gcaacatgat	ctcatggaga	cagttaataa	cttactgact	780
atgatg	tcca catcaaacgc	agctaaggac	cccactgttg	ctaaagaaga	acaaatcagc	840
ttcaga	gact gtgctgaagt	attcaaatca	ggacacacca	cgaatggcat	ctacacgtta	900
acatto	ccta attctacaga	agagatcaag	gcctactgtg	acatggaagc	tggaggaggc	960
gggtgg	acaa ttattcagcg	acgtgaggat	ggcagcgttg	catttcagag	gacttggaaa	1020
gaatat	aaag tgggatttgg	taacctctca	gaaaaatatt	ggctgggaaa	tgagtttgtt	1080
tcgcaa	ctga ctaatcagca	acgctatgtg	cttaaaatac	accttaaaga	ctgggaaggg	1140
aatgag	gctt actcattgta	tgaacatttc	tatctctcaa	gtgaagaact	caattatagg	1200

1320

1387

nnnnnnnnn nnnnnnnng gcaatgattt tagcacaagg gatggagcca ccgncanatg tatttgcaaa tgttcacaaa tgctaacagn aggtnnnnnn nnnnnnnnn nnnnnnnnn nnnntactgg aaaggctcag gctattcgct caaggccaca accatgatga tccgaccagc agatttc 96 <210> <211> 360 <212> PRT <213> Artificial/Unknown <220> <221> misc feature <222> ()..() <223> Synthetic <220> <221> misc feature <222> (269)..(272) "Xaa" may be any amino acid <223> <400> Met Trp Gln Ile Val Phe Phe Thr Leu Ser Cys Asp Leu Val Leu Ala Ala Ala Tyr Asn Asn Phe Arg Lys Ser Met Asp Ser Ile Gly Lys Lys Gln Tyr Gln Val Gln His Gly Ser Cys Ser Tyr Thr Phe Leu Leu Pro Glu Met Asp Asn Cys Arg Ser Ser Ser Pro Tyr Val Ser Asn Ala 50 60 Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser Val Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln Trp Leu Met Lys Leu Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu Met Val Glu Ile 100 Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile Gly 120 Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys Leu Thr Asp 130 135 Val Glu Ala Gln Val Ser Asn Ala Thr Thr Arg Leu Glu Leu Gln Leu 145 150 Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys Gln Ile Leu Asp 170 Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp Lys Asn Ser Phe Leu Glu

180 185 190 Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln Leu Gln Ser 195 200 Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser Lys Gln Asn 215 220 Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala Thr Val Asn 230 235 Asn Ser Val Leu Gln Lys Gln Gln His Asp Leu Met Glu Thr Val Asn 245 250 Asn Leu Leu Thr Met Met Ser Thr Ser Asn Cys Lys Xaa Xaa Xaa Xaa Val Ala Lys Glu Glu Gln Ile Ser Phe Arg Asp Cys Ala Glu Val Phe 275 280 Lys Ser Gly His Thr Thr Asn Gly Ile Tyr Thr Leu Met Trp Gln Ile 295 Val Phe Phe Thr Leu Ser Cys Asp Leu Val Leu Ala Ala Ala Tyr Asn 305 310 315 Asn Phe Arg Lys Ser Met Asp Ser Ile Gly Lys Lys Gln Tyr Gln Val 325 330 Gln His Gly Ser Cys Ser Tyr Thr Phe Leu Leu Pro Glu Met Asp Asn 345 Cys Arg Ser Ser Ser Pro Tyr 355 <210> 97 339 <211> <212> PRT <213> Artificial/Unknown <220> <221> misc feature <222> ()..() <223> Synthetic <400> 97 Met Asn Phe Leu Leu Ser Trp' Val His Trp Ser Leu Ala Leu Leu Leu Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu 50 55



Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His 100 105 Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys 120 Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys Pro Arg Arg Met Pro Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val 150 145 Asn Gly Gly Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu 165 170 Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser 200 Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn 215 Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln 235 225 230 Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln 250 Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp 280 Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr 295 300 Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe 305 310 Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro 325 330 335

Leu Asp Phe

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                                                                      120
ccaggacaac atgaagaaag aaatggtaga gatacagcag aatgcagtac agaaccagac
                                                                      180
ggctgtgatg atagaaatag ggacaaacct gttgaaccaa acagcggagc aaacgcggaa
                                                                      240
gttaactgat gtggaagccc aagtattaaa tcagaccacg agacttgaac ttcagctctt
                                                                      300
ggaacactcc ctctcgacaa acaaattgga aaaacagatt ttggaccaga ccagtgaaat
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                                                                      361
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Val Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln
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Trp Leu Met Lys Leu Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu
Met Val Glu Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met
Ile Glu Ile Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg
Lys Leu Thr Asp Val Glu Ala Gln Val Ser Asn Ala Thr Thr Arg Leu
                                    90
Glu Leu Gln Leu Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys
            100
                                105
Gln Ile Leu Asp Gln Thr Ser Glu Ile Asn Lys
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Val Ser Asn Ala Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser 1 10 15

Val Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln 20 25 30

Trp Leu Met Lys Leu Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu 35 40 45

Met Val Glu Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met 50 55 60

Ile Glu Ile Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg 70 75 80

Lys Leu Thr Asp Val Glu Ala Gln Val Ser Asn Ala Thr Thr Arg Leu 85 90 95

Glu Leu Gln Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys 100 105 110

Gln Ile Leu Asp Gln Thr Ser Glu Ile Asn Lys Met Asn Phe Leu Leu 115 120 125

Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu Tyr Leu His His Ala 130 135 140

Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly Gly Gly Gln Asn His 145 150 155 160

His Glu Val Val Lys Phe Met Asp Val Tyr Gln Arg Ser Tyr Cys His
165 170 175

Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile 180 185 190

Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu Met Arg Cys Gly Gly
195 200 205

Cys Cys Asn Asp Ġlu Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn 210 215 220

Ile Thr Met Gln Ile Met Arg Ile Lys Pro His Gln Gly Gln His Ile
225 230 235 240

Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys Glu Cys Arg Pro Lys 245 250 255

Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys Pro Arg Arg Met Pro 260 265 270

Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly Gly Trp 275 280 285

Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly 290 295 300

Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp 305 310 315 320

Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met $325 \hspace{1.5cm} 330 \hspace{1.5cm} 335$

Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln 340 345 350

Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr 355 360 365

Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu 370 375 380

His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn Cys Met 385 390 395 400

Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys 405 410 415

Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His 420 425 430

Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr 435 440 445

Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro Leu Asp Phe 450 460

<210> 101

<211> 224

<212> PRT

<213> Homo sapiens

<400> 101

Lys Pro Ser Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu Glu Asp Gly
1 10 15

His Asp Thr Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn Thr Asn Arg 20 25 30

Leu Met Gln Val Trp Cys Asp Gln Arg His Asp Pro Gly Gly Trp Thr 35 40 45

Val Ile Gln Arg Arg Leu Asp Gly Ser Val Asn Phe Phe Arg Asn Trp 50 55 60

Glu Thr Tyr Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu 70 75 80

Gly Leu Glu Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn Tyr Lys Leu

85 90 95 Leu Val Thr Met Glu Asp Trp Ser Gly Arg Lys Val Phe Ala Glu Tyr 100 105 Ala Ser Phe Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys Leu Arg Leu 120 Gly Arg Tyr His Gly Asn Ala Gly Asp Ser Phe Thr Trp His Asn Gly Lys Gln Phe Thr Thr Leu Asp Arg Asp His Asp Val Tyr Thr Gly Asn 150 Cys Ala His Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Arg Tyr Gln Asp Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly Ser Tyr Ser 200 Leu Lys Lys Val Val Met Met Ile Arg Pro Asn Pro Asn Thr Phe His 210 215 <210> 102 <211> 220 <212> PRT <213> Homo sapiens <400> 102 Ile Asn Glu Gly Pro Phe Lys Asp Cys Gln Gln Ala Lys Glu Ala Gly His Ser Val Ser Gly Ile Tyr Met Ile Lys Pro Glu Asn Ser Asn Gly Pro Met Gln Leu Trp Cys Glu Asn Ser Leu Asp Pro Gly Gly Trp Thr Val Ile Gln Lys Arg Thr Asp Gly Ser Val Asn Phe Phe Arg Asn Trp Glu Asn Tyr Lys Lys Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Met Leu Ser Asn Gln Asp Asn Tyr Lys Leu Leu Ile Glu Leu Glu Asp Trp Ser Asp Lys Lys Val Tyr Ala Glu Tyr Ser Ser Phe Arg Leu Glu Pro Glu Ser Glu Phe Tyr Arg Leu Arg Leu Gly Thr Tyr Gln Gly Asn Ala Gly Asp Ser Met Met Trp His Asn Gly 135

Lys Gln Phe Thr Thr Leu Asp Arg Asp Lys Asp Met Tyr Ala Gly Asn 145 150 155 160

Cys Ala His Phe His Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His 165 170 175

Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Lys 180 185 190

His Gln Asp Gly Ile Phe Trp Ala Glu Tyr Arg Gly Gly Ser Tyr Ser 195 200 205

Leu Arg Ala Val Gln Met Met Ile Lys Pro Ile Asp 210 215 220

<210> 103

<211> 371

<212> PRT

<213> Artificial/Unknown

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<221> misc feature

<222> ()..()

<223> Synthetic

<400> 103

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly 20 25 30

Gly Gl
y Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gl
n 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu 70 75 80

Met Arg Cys Gly Glý Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys 130 135 140

Pro Arg Arg Lys Pro Ser Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu 145 150 155 160

Glu Asp Gly His Asp Thr Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn

165 170 175

Thr Asn Arg Leu Met Gln Val Trp Cys Asp Gln Arg His Asp Pro Gly 180 185 190

Gly Trp Thr Val Ile Gln Arg Arg Leu Asp Gly Ser Val Asn Phe Phe 195 200 205

Arg Asn Trp Glu Thr Tyr Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu 210 215 220

Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn 225 230 235 240

Tyr Lys Leu Leu Val Thr Met Glu Asp Trp Ser Gly Arg Lys Val Phe 245 250 255

Ala Glu Tyr Ala Ser Phe Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys 260 265 270

Leu Arg Leu Gly Arg Tyr His Gly Asn Ala Gly Asp Ser Phe Thr Trp 275 280 285

His Asn Gly Lys Gln Phe Thr Thr Leu Asp Arg Asp His Asp Val Tyr 290 295 300

Thr Gly Asn Cys Ala His Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala 305 310 315 320

Cys Ala His Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr 325 330 335

Arg Ser Arg Tyr Gln Asp Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly 340 345 350

Ser Tyr Ser Leu Lys Lys Val Val Met Met Ile Arg Pro Asn Pro Asn 355 360 365

Thr Phe His 370

<210> 104

<211> 367

<212> PRT

<213> Artificial/Unknown

<220>

<221> misc feature

<222> ()..()

<223> Synthetic

<400> 104

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30



Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln 40 Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu 70 Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His 105 Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys 115 120 Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys Pro Arg Arg Ile Asn Glu Gly Pro Phe Lys Asp Cys Gln Gln Ala Lys 150 Glu Ala Gly His Ser Val Ser Gly Ile Tyr Met Ile Lys Pro Glu Asn 165 170 Ser Asn Gly Pro Met Gln Leu Trp Cys Glu Asn Ser Leu Asp Pro Gly 180 185 Gly Trp Thr Val Ile Gln Lys Arg Thr Asp Gly Ser Val Asn Phe Phe 195 Arg Asn Trp Glu Asn Tyr Lys Lys Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Met Leu Ser Asn Gln Asp Asn 230 Tyr Lys Leu Ieu Ile Glu Leu Glu Asp Trp Ser Asp Lys Lys Val Tyr 245 250 Ala Glu Tyr Ser Ser Phe Arg Leu Glu Pro Glu Ser Glu Phe Tyr Arg 265 Leu Arg Leu Gly Thr Tyr Gln Gly Asn Ala Gly Asp Ser Met Met Trp 275 His Asn Gly Lys Gln Phe Thr Thr Leu Asp Arg Asp Lys Asp Met Tyr 295 Ala Gly Asn Cys Ala His Phe His Lys Gly Gly Trp Trp Tyr Asn Ala 310 315 Cys Ala His Ser Asn Leu Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Lys His Gln Asp Gly Ile Phe Trp Ala Glu Tyr Arg Gly Gly

345



Ser Tyr Ser Leu Arg Ala Val Gln Met Met Ile Lys Pro Ile Asp 355 360 365

<210> 105

<211> 53

<212> PRT

<213> Homo sapiens

<400> 105

Lys Leu Glu Asn Tyr Ile Gln Asp Asn Met Lys Lys Glu Met Val Glu 1 5 10 15

Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile 20 25 30

Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys Leu Thr 35 40 45

Asp Val Glu Ala Gln 50

<210> 106

<211> 105

<212> PRT

<213> Homo sapiens

<400> 106

Thr Arg Ser Gln Leu Ser Ala Leu Glu Arg Arg Leu Ser Ala Cys Gly 20 25 30

Ser Ala Cys Gln Gly Thr Glu Gly Ser Thr Asp Leu Pro Leu Ala Pro 35 40 45

Glu Ser Arg Val Asp Pro Glu Val Leu His Ser Leu Gln Thr Gln Leu 50 55 60

Lys Ala Gln Asn Ser Arg Ile Gln Gln Leu Phe His Lys Val Ala Gln 65 70 75 80

Gln Gln Arg His Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln
85 90 95

Ser Gln Phe Gly Leu Leu Asp His Lys 100 105

<210> 107

<211> 192

<212> PRT

<213> Homo sapiens

<400> 107

Gly Pro Ile Cys Val Asn Thr Lys Gly Gln Asp Ala Ser Thr Ile Lys



1 5 10 15

Asp Met Ile Thr Arg Met Asp Leu Glu Asn Leu Lys Asp Val Leu Ser 20 25 30

Arg Gln Lys Arg Glu Ile Asp Val Leu Gln Leu Val Val Asp Val Asp 35 40 45 .

Gly Asn Ile Val Asn Glu Val Lys Leu Leu Arg Lys Glu Ser Arg Asn 50 55 60

Met Asn Ser Arg Val Thr Gln Leu Tyr Met Gln Leu Leu His Glu Ile 65 70 75 80

Ile Arg Lys Arg Asp Asn Ser Leu Glu Leu Ser Gln Leu Glu Asn Lys 85 90 95

Ile Leu Asn Val Thr Thr Glu Met Leu Lys Met Ala Thr Arg Tyr Arg 100 105 110

Glu Leu Glu Val Lys Tyr Ala Ser Leu Thr Asp Leu Val Asn Asn Gln 115 120 125

Ser Val Met Ile Thr Leu Leu Glu Glu Gln Cys Leu Arg Ile Phe Ser 130 135 140

Arg Gln Asp Thr His Val Ser Pro Pro Leu Val Gln Val Val Pro Gln 145 150 155 160

His Ile Pro Asn Ser Gln Gln Tyr Thr Pro Gly Leu Leu Gly Gly Asn 165 170 175

Glu Ile Gln Arg Asp Pro Gly Tyr Pro Arg Asp Leu Met Pro Pro Pro 180 185 190

<210> 108

<211> 196

<212> PRT

<213> Homo sapiens

<400> 108

Pro Tyr Val Ser Asn Ala Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp 1 5 10 15

Asp Ser Val Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn 20 25 30

Thr Gln Trp Leu Met Lys Leu Glu Asn Tyr Ile Gln Asp Asn Met Lys 35 · 40 45

Lys Glu Met Val Glu Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala 50 55 60

Val Met Ile Glu Ile Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln 65 70 . 75 80

Thr Arg Lys Leu Thr Asp Val Glu Ala Gln Val Leu Asn Gln Thr Thr 85 90 95



Arg Leu Glu Leu Gln Leu Leu Glu His Ser Leu Ser Thr Asn Lys Leu 100 105 110

Glu Lys Gln Ile Leu Asp Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp 115 120 125

Lys Asn Ser Phe Leu Glu Lys Lys Val Leu Ala Met Glu Asp Lys His 130 135

Ile Ile Gln Leu Gln Ser Ile Lys Glu Glu Lys Asp Gln Leu Gln Val 145 150 155 160

Leu Val Ser Lys Gln Asn Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile 165 170 175

Val Thr Ala Thr Val Asn Asn Ser Val Leu Gln Lys Gln Gln His Asp 180 185 190

Leu Met Glu Thr 195

<210> 109

<211> 105

<212> PRT

<213> Homo sapiens

<400> 109

Thr Arg Ser Gln Leu Ser Ala Leu Glu Arg Arg Leu Ser Ala Cys Gly
20 25 30

Ser Ala Cys Gln Gly Thr Glu Gly Ser Thr Asp Leu Pro Leu Ala Pro 35 40 . 45

Glu Ser Arg Val Asp Pro Glu Val Leu His Ser Leu Gln Thr Gln Leu 50 55 60

Lys Ala Gln Asn Ser Arg Ile Gln Gln Leu Phe His Lys Val Ala Gln 65 70 75 80

Gln Gln Arg His Leu Glu Lys Gln His Leu Arg Ile Gln His Leu Gln
85 90 95

Ser Gln Phe Gly Leu Leu Asp His Lys 100 105

<210> 110

<211> 192

<212> PRT

<213> Homo sapiens

<400> 110

Gly Pro Ile Cys Val Asn Thr Lys Gly Gln Asp Ala Ser Thr Ile Lys
1 10 15

Asp Met Ile Thr Arg Met Asp Leu Glu Asn Leu Lys Asp Val Leu Ser 20 25 30

Arg Gln Lys Arg Glu Ile Asp Val Leu Gln Leu Val Val Asp Val Asp 35 40 45

Gly Asn Ile Val Asn Glu Val Lys Leu Leu Arg Lys Glu Ser Arg Asn 50 55 60

Met Asn Ser Arg Val Thr Gln Leu Tyr Met Gln Leu Leu His Glu Ile 70 75 80

Ile Arg Lys Arg Asp Asn Ser Leu Glu Leu Ser Gln Leu Glu Asn Lys
85 90 95

Ile Leu Asn Val Thr Thr Glu Met Leu Lys Met Ala Thr Arg Tyr Arg 100 105 110

Glu Leu Glu Val Lys Tyr Ala Ser Leu Thr Asp Leu Val Asn Asn Gln 115 120 125

Ser Val Met Ile Thr Leu Leu Glu Glu Gln Cys Leu Arg Ile Phe Ser 130 135 140

Arg Gln Asp Thr His Val Ser Pro Pro Leu Val Gln Val Val Pro Gln 145 150 155 160

His Ile Pro Asn Ser Gln Gln Tyr Thr Pro Gly Leu Leu Gly Gly Asn 165 170 175

Glu Ile Gln Arg Asp Pro Gly Tyr Pro Arg Asp Leu Met Pro Pro Pro 180 185 190

<210> 111

<211> 135

<212> PRT

<213> Homo sapiens

<400> 111

Leu Lys Asp Val Leu Ser Arg Gln Lys Arg Glu Ile Asp Val Leu Gln 20 25 30

Leu Val Val Asp Val Asp Gly Asn Ile Val Asn Glu Val Lys Leu Leu 35 40 45

`Arg Lys Glu Ser Arg Asn Met Asn Ser Arg Val Thr Gln Leu Tyr Met 50 55 60

Gln Leu Leu His Glu Ile Ile Arg Lys Arg Asp Asn Ser Leu Glu Leu 65 70 75 80

Ser Gln Leu Glu Asn Lys Ile Leu Asn Val Thr Thr Glu Met Leu Lys 85 90 95 Met Ala Thr Arg Tyr Arg Glu Leu Glu Val Lys Tyr Ala Ser Leu Thr 100 105 110

Asp Leu Val Asn Asn Gln Ser Val Met Ile Thr Leu Leu Glu Glu Gln
115 120 125

Cys Leu Arg Ile Phe Ser Arg 130 135

<210> 112

<211> 101

<212> PRT

<213> Homo sapiens

<400> 112

Glu Leu Glu Leu Leu Asn Asn Glu Leu Leu Lys Gln Lys Arg Gln Ile 1 5 10 15

Glu Thr Leu Gln Gln Leu Val Glu Val Asp Gly Gly Ile Val Ser Glu 20 25 30

Val Lys Leu Leu Arg Lys Glu Ser Arg Asn Met Asn Ser Arg Val Thr 35 40 45

Gln Leu Tyr Met Gln Leu Leu His Glu Ile Ile Arg Lys Arg Asp Asn 50 55 60

Ala Leu Glu Leu Ser Gln Leu Glu Asn Arg Ile Leu Asn Gln Thr Ala 65 70 75 80

Asp Met Leu Gln Leu Ala Ser Lys Tyr Lys Asp Leu Glu His Lys Tyr 85 90 95

Gln His Leu Ala Thr 100

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Gly Ser Pro Arg Glu Phe Ile Tyr Leu Asn Arg Tyr Lys Arg Ala Gly 35 40 45

Glu Ser Gln Asp Lys Cys Thr Tyr Thr Phe Ile Val Pro Gln Gln Arg 50 55 60

Val Thr Gly Ala Ile Cys Val Asn Ser Lys Glu Pro Glu Val Leu Leu 65 70 75 80

Glu Asn Arg Val His Lys Gln Glu Leu Glu Leu Asn Asn Glu Leu 90 Leu Lys Gln Lys Arg Gln Ile Glu Thr Leu Gln Gln Leu Val Glu Val 105 Asp Gly Gly Ile Val Ser Glu Val Lys Leu Leu Arg Lys Glu Ser Arg 120 Asn Met Asn Ser Arg Val Thr Gln Leu Tyr Met Gln Leu Leu His Glu Ile Ile Arg Lys Arg Asp Asn Ala Leu Glu Leu Ser Gln Leu Glu Asn 150 155 Arg Ile Leu Asn Gln Thr Ala Asp Met Leu Gln Leu Ala Ser Lys Tyr 165 170 Lys Asp Leu Glu His Lys Tyr Gln His Leu Ala Thr Leu Ala His Asn 185 Gln Ser Glu Ile Ile Ala Gln Leu Glu Glu His Cys Gln Arg Val Pro Ser Ala Arg Pro Val Pro Gln Pro Pro Pro Ala Ala Pro Pro Arg Val Tyr Gln Pro Pro Thr Tyr Asn Arg Ile Ile Asn Gln Ile Ser Thr Asn 230 235 Glu Ile Gln Ser Asp Gln Asn Leu Lys Val Leu Pro Pro Pro Leu Pro 245 Thr Met Pro Thr Leu Thr Ser Leu Pro Ser Ser Thr Asp Lys Pro Ser 265 Gly Pro Trp Arg Asp Cys Leu Gln Ala Leu Glu Asp Gly His Asp Thr Ser Ser Ile Tyr Leu Val Lys Pro Glu Asn Thr Asn Arg Leu Met Gln Val Trp Cys Asp Gln Arg His Asp Pro Gly Gly Trp Thr Val Ile Gln 315 Arg Arg Leu Asp Gly Ser Val Asn Phe Phe Arg Asn Trp Glu Thr Tyr 325 Lys Gln Gly Phe Gly Asn Ile Asp Gly Glu Tyr Trp Leu Gly Leu Glu Asn Ile Tyr Trp Leu Thr Asn Gln Gly Asn Tyr Lys Leu Leu Val Thr Met Glu Asp Trp Ser Gly Arg Lys Val Phe Ala Glu Tyr Ala Ser Phe 370 Arg Leu Glu Pro Glu Ser Glu Tyr Tyr Lys Leu Arg Leu Gly Arg Tyr 390 395



His Gly Asn Ala Gly Asp Ser Phe Thr Trp His Asn Gly Lys Gln Phe 405 410 415

Thr Thr Leu Asp Arg Asp His Asp Val Tyr Thr Gly Asn Cys Ala His 420 425 430

Tyr Gln Lys Gly Gly Trp Trp Tyr Asn Ala Cys Ala His Ser Asn Leu 435 440 445

Asn Gly Val Trp Tyr Arg Gly Gly His Tyr Arg Ser Arg Tyr Gln Asp 450 460

Gly Val Tyr Trp Ala Glu Phe Arg Gly Gly Ser Tyr Ser Leu Lys Lys 465 470 475 480

Val Val Met Met Ile Arg Pro Asn Pro Asn Thr Phe His 485 490

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Arg Leu Gln Gly Arg Asn Arg Ala Leu Glu Thr Arg Leu Gln Ala Leu 20 25 30

Glu Ala Gln His Gln Ala Gln Leu Asn Ser Leu Gln Glu Lys Arg Glu 35 40 45

Gln Leu His Ser Leu Leu 50

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Trp Leu Lys Lys Leu Glu Arg Ala Ile Lys Thr Ile Leu Arg Ser Lys 20 25 30

Leu Glu Gln Val Gln Gln Gln Met Ala Gln Asn Gln Thr Ala Pro Met 35 40 45

Leu Glu Leu Gly Thr Ser Leu Leu Asn Gln Thr Thr Ala Gln Ile Arg 50 55 60

Lys Leu Thr Asp Met Glu Ala Gln Leu Leu Asn Gln Thr Ser Arg Met 70 75 80

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Ser.Ala	Leu 115		Lys	Arg	Leu	Gln 120	Ala	Leu	Glu	Thr	Lys 125	Gln	Gln	Glu		
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aattcaga	ıgg	cgcca	acgat	g go	ctcaç	ıtgga	ctt	caac	cgg	ccct	kggt	ag.	cctac	aagg	gc 180)
ggtggttt	tg (gggga	atcco	cc ad	eggeç	gagtt	cto	gctt	ggg	tctt	ggag	jaa i	aggkç	gcata	ag 240)
catcacgg	ıgg '	ggaco	cggaa	ac aç	gccgn	nctgg	ccg	gtgca	amc	tgcg	ıggga	ict (gggat	ggg	a 300)
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ccggccgcaa	agtctttgca	gaatacgcca	gtttccgcct	ggaacctgag	agcgagtatt	360
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~~~~~~	aa	+++~~~	++~>~~~~	>+><	aaataaa	240

300 acatttactg gctgacgaac caaggcaact acaaactcct ggtgaccatg gaggactggt 360 ccqqccqcaa agtctttgca gaatacqcca gtttccqcct ggaacctgag agcgagtatt ataagetgeg getggggege taccatggea atgegggtga eteetttaca tggeacaaeg 420 gcaagcagtt caccaccag gacagagatc atgatgtcta cacagtataa gctgcggctg 480 540 gggcgatacc atggcaatgc gggtgactcc tttacatggc acaacggcaa gcagttcacc 600 accetggaca gagateatga tgtetacaea ggaaaetgtg cecaetaeea gaagggagge 660 tggtggtata acgcctgtgc ccactccaac ctcaaccgga aaaagagagg aagagaaacc atttagagac tgtgcagatg tatatcaagc tggttttaat aaaagtggaa tctacactat 720 780 ttatattaat aatatgccag aacccaaaaa ggtgttttgc aatatggatg tcaatggggg 840 aggttggact gtaatacaac atcgtgaaga tggaagtcta gatttccaaa gaggctggaa 900 ggaatataaa atgggttttg gaaatccctc cggtgaatat tggctgggga atgagtttat 960 ttttgccatt accagtcaga ggcagtacat gctaagaatt gagttaatgg actgggaagg 1020 gaaccgagcc tattcacagt atgacagatt ccacatagga aatgaaaagc aaaactatag gttgtattta aaaggtcaca ctgggacagc aggaaaacag agcagcctga tcttacacgg 1080 1140 tgctgatttc agcactaaag atgctgataa tgacaactgt atgtgcaaat gtgccctcat 1200 gttaacagga ggatggtggt ttgatgcttg tggcccctcc aatctaaatg gaatgttcta 1260 tactgcggga caaaaccatg gaaaactgaa tgggataaag tggcactact tcaaagggcc cagttactcc ttacgttcca caactatgat gattcgacct ttagattttt gaaagcgcaa 1320 tgtcagaagc gattatgaaa gcaacaaaga aatccggaga agctgccagg tgagaaactg 1380 1440 tttgaaaact tcagaagcaa acaatattgt ctcccttcca gcaataagtg gtagttatgt 1500 gaagtcacca aggttcttga ccgtgaatct ggagccgttt gagttcacaa gagtctctac 1560 ttggggtgac agtgctcacg tggctcgact atagaaaact ccactgactg tcgggcttta aaaagggaag aaactgctga gcttgctgtg cttcaaacta ctactggacc ttattttgga 1620 1680 actatggtag ccagatgata aatatggtta atttcatgta aaacagaaaa aaagagtgaa aaagagaata tacatgaaga atagaaacaa gcctgccata atcctttgga aaagatgtat 1740 1800 tataccagtg aaaaggcgtt atatctatgc aaacctacta acaaattata ctgttgcaca 1860 attttgataa aaatttagaa cagcattgtc ctctgagttg gttaaatgtt aatggatttc agaagcctaa ttccagtatc atacttacta gttgatttct gcttacccat cttcaaatga 1920 aaattccatt tttgtaagcc ataatgaact gtagtacatg gacaataagt gtgtggtaga 1980 aacaaactcc attactctga tttttgatac agttttcaga aaaagaaatg aacataatca 2040

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Glu Met Asp Asn Cys Arg Ser Ser Ser Ser Pro Tyr Val Ser Asn Ala 50 55 60

Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser Val Gln Arg Leu 65 70 75 80

Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln Trp Leu Met Lys 85 90 95

Val Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu Met Val Glu Ile 100 105 110

Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile Gly
115 120 125

Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys Leu Thr Asp 130 135 140

Val Glu Ala Gln Val Leu Asn Gln Thr Thr Arg Leu Glu Leu Gln Leu 145 150 155 160

Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys Gln Ile Leu Asp 165 170 175

Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp Lys Asn Ser Phe Leu Glu . 180 185 190

Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln Leu Gln Ser

195 200 205 Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser Lys Gln Asn Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala Thr Val Asn 230 235 Asn Ser Val Leu Gln Lys Gln Gln His Asp Leu Met Glu Thr Val Asn 250 Asn Leu Leu Thr Met Met Ser Thr Ser Asn Ala Ala Lys Asp Pro Thr 260 265 Val Ala Lys Glu Glu Gln Ile Ser <210> 123 <211> 221 <212> PRT <213> Homo sapiens <400> 123 Glu Glu Glu Lys Pro Phe Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly Ile Tyr Thr Ile Tyr Ile Asn Asn Met Pro Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu 90 Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr 105 Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu 115 Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His 135 Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys 150 155 Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly 165 Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly

185

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aat	ggaa	tgt 1	cta	tact	gc g	ggac	aaaa	c ca	tgga.	aaac	tga	atgg	gat	aaagt	tggca
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Gln	Tyr	Gln 35	Val	Gln	His	Gly	Ser 40	Cys	Ser	Tyr	Thr	Phe 45	Leu	Leu	Pro
Glu	Met 50	Asp	Asn	Cys	Arg	Ser 55	Ser	Ser	Ser	Pro	Tyr 60	Val	Ser	Asn	Ala
Val 65	Gln	Arg	Asp	Ala	Pro 70	Leu	Glu	Tyr	Asp	Asp 75	Ser	Val	Gln	Arg	Leu 80
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Val	Glu	Asn	Ile 100	Ser	Gln	Asp	Asn	Met 105	Lys	Lys	Glu	Met	Val 110	Glu	Ile
Gln	Gln	Asn 115	Ala	Val	Gln	Asn	Gln 120	Thr	Ala	Val	Met	Ile 125	Glu	Ile	Gly
Thr	Asn 130	Leu	Leu	Asn	Gln	Thr 135	Ala	Glu	Gln	Thr	Arg 140	Lys	Leu	Thr	Asp
Val 145	Glu	Ala	Gln	Val	Leu 150	Asn	Gln	Thr	Thr	Arg 155	Leu	Glu	Leu	Gln	Leu 160
Leu	Glu	His	Ser	Leu 165	Ser	Thr	Asn	Lys	Leu 170	Glu	Lys	Gln	Ile	Leu 175	Asp
Gln	Thr	Ser,	Glu 180	Ile	Asn	Lys	Leu	Gln 185	Asp	Lys	Asn	Ser	Phe 190	Leu	Glu





Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln Leu Gln Ser Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser Lys Gln Asn Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala Thr Val Asn 225 230 Asn Ser Val Leu Gln Lys Gln Gln His Asp Leu Met Glu Thr Val Asn 250 Asn Leu Leu Thr Met Met Ser Thr Ser Asn Ala Ala Lys Asp Pro Thr 265 Val Ala Lys Glu Glu Gln Ile Ser Glu Glu Lys Pro Phe Arg Asp 280 Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly Ile Tyr Thr 295 Ile Tyr Ile Asn Asn Met Pro Glu Pro Lys Lys Val Phe Cys Asn Met 310 Asp Val Asn Gly Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly 325 330 Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly 345 Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile 355 360 Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu 375 Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu 385 390 Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly Thr Ala Gly 410 Lys Gln Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met Leu Thr Gly 435 Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile Lys Trp His 470 475

Tyr .Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr Met Met Ile

490

495

Arg Pro Leu Asp Phe 500

485



<210> 126

<211> 648

<212> PRT

<213> Artificial/Unknown

<220>

<221> misc feature

<222> ()..()

<223> Synthetic

<400> 126

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu  $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$ 

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
20 25 30

Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu 50 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu 65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys 130 135 140

Pro Arg Arg Met Trp Gln Ile Val Phe Phe Thr Leu Ser Cys Asp Leu 145 150 155 160

Val Leu Ala Ala Tyr Asn Asn Phe Arg Lys Ser Met Asp Ser Ile 165 170 175

Gly Lys Lys Gln Tyr Gln Val Gln His Gly Ser Cys Ser Tyr Thr Phe 180 185 190

Leu Leu Pro Glu Met Asp Asn Cys Arg Ser Ser Ser Ser Pro Tyr Val 195 200 205

Ser Asn Ala Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser Val 210 215 220

Gln Arg Leu Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln Trp 225 230 235 240

Leu Met Lys Val Glu Asn Ile Ser Gln Asp Asn Met Lys Lys Glu Met

545

550

555

560





245 250 255 Val Glu Ile Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile 260 265 Glu Ile Gly Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys 280 Leu Thr Asp Val Glu Ala Gln Val Leu Asn Gln Thr Thr Arg Leu Glu 295 Leu Gln Leu Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys Gln 310 Ile Leu Asp Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp Lys Asn Ser 330 Phe Leu Glu Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln 340 Leu Gln Ser Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser 360 Lys Gln Asn Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala 370 375 Thr Val Asn Asn Ser Val Leu Gln Lys Gln Gln His Asp Leu Met Glu 385 390 Thr Val Asn Asn Leu Leu Thr Met Met Ser Thr Ser Asn Ala Ala Lys 410 Asp Pro Thr Val Ala Lys Glu Glu Gln Ile Ser Glu Glu Glu Lys Pro 420 Phe Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly 440 Ile Tyr Thr Ile Tyr Ile Asn Asn Met Pro Glu Pro Lys Lys Val Phe 455 Cys Asn Met Asp Val Asn Gly Gly Gly Trp Thr Val Ile Gln His Arg 465 470 475 Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met 490 Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile 500 Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met 520 Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile 535 Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly





Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser 565 570 575

Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met 580 585 590

Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn 595 600 605

Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile 610 615 620

Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr 625 630 635 640